

**7.1, 2, 4 REVIEW Justify ALL answers.**

Date \_\_\_\_\_ Period \_\_\_\_\_

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**Simplify.**

1)  $\sqrt{75b}$

2)  $\sqrt{512}$

3)  $\sqrt{72x^3y^2}$

4)  $-3\sqrt[4]{6} + 2\sqrt[4]{6}$

5)  $-2\sqrt[4]{32} + 2\sqrt[4]{162}$

**Write each expression in exponential form.**

6)  $(\sqrt[3]{n})^4$

7)  $\frac{1}{\sqrt{x}}$

**Write each expression in radical form.**

8)  $(5p)^{-\frac{4}{3}}$

**Simplify.**

9)  $(n^{12})^{\frac{1}{4}}$

**Solve each equation.**

10)  $3 = (27x)^{\frac{1}{3}}$

**Simplify. Your answer should contain only positive exponents.**

11)  $y^2 \cdot 3x^{-1}y^{\frac{3}{2}}$

12)  $\left(x^2y^{-\frac{3}{2}}\right)^{\frac{3}{4}}$

$$13) \frac{2m^{-2}n^{\frac{3}{2}}}{2m^0}$$

**Simplify. Your answer should contain only positive exponents. No decimals.**

$$14) \left( \frac{2^2 \cdot 2^4}{(2^0)^3} \right)^2$$

$$15) \frac{(3^{-2})^4 \cdot 3^4}{3^4}$$

$$16) \frac{(7^{-4} \cdot 7^3)^{-4}}{(7^3)^2}$$

**State if the given functions are inverses. No work = No credit**

$$17) f(x) = -3x + 12$$

$$g(x) = 4 - \frac{1}{3}x$$

**Find the inverse of each function.**

$$18) f(n) = -\frac{1}{2}n - 1$$

$$19) g(x) = 2x^3 + 3$$

## 7.1, 2, 4 REVIEW Justify ALL answers.

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**Simplify.**

$$1) \sqrt{75b}$$

$$5\sqrt{3b}$$

$$2) \sqrt{512}$$

$$16\sqrt{2}$$

$$3) \sqrt{72x^3y^2}$$

$$6xy\sqrt{2x}$$

$$4) -3\sqrt[4]{6} + 2\sqrt[4]{6}$$

$$-\sqrt[4]{6}$$

$$5) -2\sqrt[4]{32} + 2\sqrt[4]{162}$$

$$2\sqrt[4]{2}$$

**Write each expression in exponential form.**

$$6) (\sqrt[3]{n})^4$$

$$n^{\frac{4}{3}}$$

$$7) \frac{1}{\sqrt{x}}$$

$$x^{-\frac{1}{2}}$$

**Write each expression in radical form.**

$$8) (5p)^{-\frac{4}{3}}$$

$$\frac{1}{(\sqrt[3]{5p})^4}$$

$$9) (n^{12})^{\frac{1}{4}}$$

$$n^3$$

**Solve each equation.**

$$10) 3 = (27x)^{\frac{1}{3}}$$

$$\{1\}$$

**Simplify. Your answer should contain only positive exponents.**

$$11) y^2 \cdot 3x^{-1}y^{\frac{3}{2}}$$

$$\frac{3y^{\frac{7}{2}}}{x}$$

$$12) \left(x^2y^{-\frac{3}{2}}\right)^{\frac{3}{4}}$$

$$\frac{y^{\frac{7}{8}}x^{\frac{3}{2}}}{y^2}$$

$$13) \frac{2m^{-2}n^{\frac{3}{2}}}{2m^0}$$

$$\frac{n^{\frac{3}{2}}}{m^2}$$

**Simplify. Your answer should contain only positive exponents. No decimals.**

$$14) \left( \frac{2^2 \cdot 2^4}{(2^0)^3} \right)^2$$

$$2^{12}$$

$$15) \frac{(3^{-2})^4 \cdot 3^4}{3^4} \cdot \frac{1}{3^8}$$

$$16) \frac{(7^{-4} \cdot 7^3)^{-4}}{(7^3)^2}$$

$$\frac{1}{7^2}$$

**State if the given functions are inverses. No work = No credit**

$$17) \begin{aligned} f(x) &= -3x + 12 \\ g(x) &= 4 - \frac{1}{3}x \end{aligned}$$

**Yes**

**Find the inverse of each function.**

$$18) f(n) = -\frac{1}{2}n - 1$$

$$f^{-1}(n) = -2n - 2$$

$$19) g(x) = 2x^3 + 3$$

$$g^{-1}(x) = \sqrt[3]{\frac{x-3}{2}}$$